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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,569	04/26/2006	Sung-Hoon Kim	CU-4310 WWP	1978
26530 7590 02/18/2009 LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604				
EXAMINER				
PUENTE, EVA YI				
ART UNIT		PAPER NUMBER		
2611				
MAIL DATE		DELIVERY MODE		
02/18/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,569

Applicant(s)

KIM ET AL.

Examiner

EVA Y. PUENTE

Art Unit

2611

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 2/7/06, 2/13/06

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig. 19 depicts a control unit 1925. It appears that the control unit 1925 sends controls to blocks 1907, 1909, 1913, 1917, and 1919. Therefore, a connection line/bus output of the control unit 1925 to the input of those blocks indicated above is necessary to make Fig. 19 clear and correct. Please also see Fig. 20. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because on line 8, recitation "mixing rate" should be changed to -- mixing ratio --. Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities: on page 29, line 11, please change "reinforcement encoder 415" to -- reinforcement encoder 411 --. Appropriate correction is required.

Claim Objections

4. Claims 1, 9, 12, 25, 31, 34, and 40 are objected to because of the following informalities: please change "each having four levels" to -- each group having four levels --.
5. Claims 7, 18, and 24, are objected to because of the following informalities: phrase "if" in claims do not render positive recitation.
6. Claims 9, 25, and 27 are objected to because of the following informalities: phrase "allowing" or "allows" do not render positive recitation.
7. Claims 9 and 25 are objected to because of the following informalities: On line 13, please change "second encoding mean" to -- second encoding means --.
8. Claim 14 is objected to because of the following informalities: On line 4, please change "equalizing means" to -- equalizer --.
9. Claim 25 is objected to because of the following informalities: lines 16-21 recite identical limitations. Please delete the repeated limitations.

10. Claim 27 is objected to because of the following informalities: On line 8, please change "equalizing means" to -- equalizer --.

11. Claim 30 is objected to because of the following informalities: On line 2, please change "equalizing means" to -- equalizer --.

11. Claims 28, 31 and 43 are objected to because of the following informalities: On line 5, please change "the robust data" to -- a robust data --.

12. Claim 30 (on page 54, follow by claim 32) is objected to because of the following informalities: On line 2, please change "equalizing means" to -- equalizer --. Also this claim is identical to claim 30 on page 53. Please check dependency. Perhaps this claim should be dependent upon claim 31, not 29.

13. Claim 34 is objected to because of the following informalities: On line 8, please change "d)" to -- c) --.

Appropriate correction is required.

14. The numbering of claims objected. When claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims.

Misnumbered claim 30 on page 54 should have been renumbered as claim 33.

Allowable Subject Matter

12. Claims 1-45 would be allowable if rewritten to overcome the objections, set forth in this Office action.

13. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art teaches or suggests using a 4 level vestigial side band (VSB) encoding and decoding in ATSC system. The 4-VSB mix normal data and robust data in transmission and reception. The encoding for robust data are mapped to one of two groups with alphabet symbols (-5, -3, 1, 7) and (-7, -1, 3, 5), wherein each group having four levels. This way regardless of the mixing ratio of normal and robust data the average power will not be increased.

Conclusion

14. This application is in condition for allowance except for the following formal matters:

See description above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Puente whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Puente
/E. Y. P./
Examiner, Art Unit 2611

February 13, 2009

/Chieh M Fan/
Supervisory Patent Examiner, Art Unit 2611